## PATENT COOPERATION TREATY

# **PCT**

# TRANSLATION INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P05054700				FOR FURTHER A	R ACTION See Form PCT/IPEA/416					
International application No.				International filing da	te (day/month/year)	Priority date (day/month/year)				
PCT/JP2005/004790			04790	17.03.200	5	25.03.2004				
International Patent Classification (IPC) or national classification and IPC										
H01H21/265, H05H1/46										
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Applicant										
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.										
1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.									
2.	This REPORT consists of a total of5			5	sheets, including this cover sheet.					
3.	This report is also accompanied by ANNEXES, comprising:									
	a. 📐	(sent t	to the applicant and	to the International Bu	reau) a total of 3	sheets, as follows:				
	sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or									
	sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).									
	sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental									
	Box.									
	b. (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))									
	, containing a sequence listing and/or tables									
related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).										
4.	This report contains indications relating to the following items:									
	$\boxtimes$	Box No. I	Basis of the	report						
		Box No. I	I Priority							
		Box No. I	II Non-establis	shment of opinion with	regard to novelty, invent	tive step and industrial applicability				
	Box No. IV Lack of unity of invention									
	Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement									
	Box No. VI Certain documents cited									
	Box No. VII Certain defects in the international application									
		Box No. V	VIII Certain obse	Certain observations on the international application						
Date of submission of the demand  Date of completion of this report										
Daic of 8	, GU 1111 5 51	ion or the d	- manu		Date of completion of th	us report				
Name and mailing address of the IPEA/JP					Authorized officer					
Faccimila No.					Talanhana Na	alaphona No				

International application No.

PCT/JP2005/004790

Box	No. I	Basis of the report							
1.		h regard to the language, this report is based on the internatio cated under this item.	nal application in the language in	which it was filed, unless otherwise					
		This report is based on translations from the original langua which is the language of a translation furnished for the purp international search (Rule 12.3 and 23.1(b))  publication of the international application (Rule 12.4	oses of:	,					
2.	rece	international preliminary examination (Rule 55.2 and/or 55.3)  ith regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the ceiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to is report):  the international application as originally filed/furnished the description:							
		pages _ 1, 2 , 4-12		as originally filed/furnished					
		pages* 3	received by this Authority on	25.10.2005					
		pages*	received by this Authority on						
	$\boxtimes$	the claims:							
		nos.		as originally filed/furnished					
		nos.*	as amended (togethe	r with any statement) under Article 19					
		nos.* 1-10	received by this Authority on	25.10.2005					
		nos.*	received by this Authority on						
	$\boxtimes$	the drawings:							
		sheets fig. 1-4		as originally filed/furnished					
		sheets*	received by this Authority on						
		sheets*	•						
		a sequence listing and/or any related table(s) – see Supplem							
3.	$\boxtimes$	The amendments have resulted in the cancellation of:							
		the claims, nos. 11–13	· · · · · ·						
		the drawings, sheets/figs							
4.		This report has been established as if (some of) the amend they have been considered to go beyond the disclosure as fil	lments annexed to this report and	listed below had not been made, since					
		the description, pages							
		the claims, nos.							
		the drawings, sheets/figs							
		the sequence listing (specify):							
		any table(s) related to sequence listing (specify):							
*	If ite	em 4 applies, some or all of those sheets may be marked "sup	erseded."						

PCT/JP2005/004790

#### 2. Citations and explanations (Rule 70.7)

- Document 1: JP 01-111320 A (Matsushita Electric Industrial Co., Ltd.), 28 April 1989, entire text and fig. 1 to 4 (Family: none)
- Document 2: JP 2003-068666 A (Tokyo Electron Ltd.), 07

  March 2003, entire text and fig. 1 to 4 & WO

  2003/019636 A1 & US 2004/0241968 A1 & KR

  2004029129 A & AU 2002338013 A1 & TW 559909
- Document 3: JP 60-138973 A (Kabushiki Kaisha Fuji Denki Sogo Kenkyusho), 23 July 1985, entire text and fig. 1 and 2 (Family: none)
- Document 4: JP 2000-208527 A (Fuji Electric Co., Ltd.),
  28 July 2000, entire text and fig. 1 to 18 &
  US 2003/0207536 A1 & DE 10000754 A1

Claims 1 to 4, 7, 9 and 10

The inventions set forth in claims 1 to 4, 7, 9 and 10 lack novelty and do not involve an inventive step in the light of document 1, which is newly cited in the present international preliminary report on patentability.

Document 1 (page 2, upper left column, line 16 to lower left column, line 1 and fig. 1 to 4) teaches a

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

feature wherein boron is ion-implanted in the surface of a semiconductor substrate, and then helium plasma is irradiated upon the substrate in order to impart a desired impurity profile in which the impurity concentration is one part per ten or higher at a depth of 4 nm from the surface, while the impurity concentration is one part per hundred or higher at a depth of 7 nm from the surface.

#### Claim 5

The invention set forth in claim 5 does not involve an inventive step in the light of documents 1 and 2, which are newly cited in the present international preliminary report on patentability.

Document 2 (paragraphs [0009] to [0013]) teaches a feature wherein plasma that includes hydrogen is irradiated upon the substrate after the introduction of impurities.

Such being the case, it would have been easy for a person skilled in the art to substitute a plasma that includes hydrogen for the plasma that is irradiated upon the substrate after the introduction of impurities in the invention taught in document 1.

#### Claims 6 and 8

The inventions set forth in claims 6 and 8 do not involve an inventive step in the light of documents 1 to 4, which are newly cited in the present international preliminary report on patentability.

Document 3 (page 2, lower right column, lines 6 to 16) teaches a feature wherein impurities are introduced into the surface of a semiconductor substrate by means of

International application No.
PCT/JP2005/004790

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

a plasma doping technique.

Meanwhile, document 4 (paragraph [0073]) teaches a feature wherein impurities are introduced into the surface of a semiconductor substrate by means of a gas doping technique.

Such being the case, it would have been easy for a person skilled in the art to conceive of configuring the invention taught in document 1 so that the impurities are introduced by means of a plasma doping technique or a gas doping technique, as is taught in document 3 or document 4.